ICSS

the superior student

THE NEWSLETTER OF THE INTER-UNIVERSITY COMMITTEE ON THE SUPERIOR STUDENT

Volume 2, Number 7
Boulder, Colorado
November, 1959

The Two Cultures

Talented Students in Western Europe *Page 3*

Science Advisory Committee Report *Page 8*

Directed Studies in Science at Yale *Page 9*

Humanities for Engineers at Yale *Page 11*

Honors Program in Electrical Engineering *Page 12*

Physics Honors Course in California *Page 13*

UCLA Program for High School Students *Page 14*

Vanderbilt High School Program *Page 17*

Superior Students at Notre Dame *Page 18*

Enrichment Program at Baldwin-Wallace *Page 20*

Visit to the Northwest *Page 22*

Notes and Comments *Page 24*

THE TWO CULTURES

In his now famous lecture on "The Two Cultures and the Scientific Revolution"* C. P. Snow describes the "total incomprehension" which tends to exist between the scientific and the humanistic cultures of the Western world; an incomprehension which is turning, Snow believes, to actual hostility. The scientist, with "the future in his bones" looks with disdain on the traditional culture of the humanist, to which the humanist, "wishing the future did not exist," responds by ignoring the magnificent edifice of science which is doing most to shape that future. Such outstanding humanists as Ruskin and William Morris, Thoreau, Emerson, D. H. Lawrence, Eliot, Yeats and Pound, each in his own way, says Snow, expressed his shock or horror at the industrial revolution and its mechanization of life, while few modern novelists treat the scientific culture with understanding or sympathy. And in the other camp many scientists almost take pride in their unfamiliarity with past or contemporary literature, philosophy and art.

The result: "At the heart of thought and crea-

*Printed in full by the Cambridge University press and abridged in the **Saturday Evening Post** (September 12, 1959).

tion we are letting some of our best chances go by default." In the practical sphere this failure is at the core of our difficulties in the developing countries bent on industrialization and in our competition with the Russians. The latter, Snow asserts, "have a deeper insight into the scientific revolution than we have and the gap between the cultures doesn't seem to be anything like so wide as with us."

The solution: "A total rethinking of our education," out of which must come methods for producing the best intellects we can unhampered by petty parochialisms and fully alive to the cross currents of change in all areas of life and to the mutual interinvolvements and reciprocal interpenetrations of the two cultures. In both there must be men alert to the wider human implications of their work through whom the gap in cultures can be closed. Our task in education today is to produce such men who are at home in both cultures: "humanists, politicians, administrators, an entire community, who know enough science to have a sense of what the scientists are talking about" (a point made also in the Report of the President's Science Advisory Committee and in the article on Yale's Directed Studies Program in Science, both in this issue) and scientists, engineers and professional men of all kinds who appreciate the values of the traditional culture and can envision the implications of their work for the pressing needs of modern culture.

Indeed, John Dewey anticipated Mr. Snow's general position when in 1939 he said, "A culture which permits science to destroy traditional values but which distrusts its power to create new ones is a culture which is destroying itself." (*Freedom and Culture.*)

We believe that Honors programs can help find an answer to Snow's challenge by contributing to the vital revisions of our education approach. One of our central concerns in Honors programs has been and is the achievement of an Honors outlook in departmental and strictly professional work as well as in general studies. This outlook is an invitation to avoid limiting our work with the talented only to acceleration, narrow specialization or the production merely of better technicians.

The urgency of our educational tasks was well put in Snow's closing words:

> There are steps to be taken which are not outside the powers of reflective people. Education is not the total solution to this problem; but without education the West can't even begin to cope. All the arrows point the same way. Closing the gap between the two cultures is a necessity in the most abstract intellectual sense as well as in the practical. . . . For the sake of the intellectual life, for the sake of the western society living precariously rich among the poor, if there is intelligence in the world it is obligatory for the Americans and for the whole West, to look with fresh eyes.
>
> We have been brought up to think as though we had all the time in the world, and we have very little. So little that I dare not guess at it.

Dean Gaede's study in this issue on the treatment of talented students in western Europe and the emergence of new types of Honors programs in this country indicate a growing desire to discover and encourage talent by tradition-breaking educational programs. These are parallel signs that the West may be finding ways to use its "little time" well.

talented students in western europe

by **William R. Gaede**
Dean of the Faculty
Brooklyn College

In the summer of 1958 Dean Gaede had a travel grant from the Ford Foundation to study current practices on the identification, guidance and financial support of able students in Western European countries. The results of his trip are incorporated in a report in which the chief features of the systems in Germany, England and France are described in some detail and the systems of other European countries compared briefly with them.

The following abstract includes those portions of the report on Germany, England and France which focus on the treatment of the superior student at the secondary and university level.*

GERMANY

As in most European countries, the screening of children for schools leading to university study occurs early—at age ten. Such early screening is thought to result in a great loss of potential talent. No process of self-selection is adequate at this age, the examinations that are used are of doubtful value and many gifted students for social or other reasons probably do not even present themselves for the examinations.

In the secondary school, the child must choose one of four prescribed curricula and follow it for nine years if he wishes to prepare for university study. Changes though possible are often attended by difficulty. Many different subjects are studied and the assignments are heavy and demanding. There is no special provision for talented students but to a certain extent selection takes place by the yearly decisions on promotion which eliminate students who are decidedly below average.

Observers from other countries often praise the solid and varied knowledge acquired in German secondary schools, and yet one finds much dissatisfaction with the results of pre-university training among German educators themselves. Critics say that students enter the university with much knowledge of details, but without the habit of thinking and studying independently. Frequently the gifted student develops a cynical attitude toward school and reduces his efforts to the passing minimum in order to use his time for independent study of subjects of his own choice outside of school.

Interest in identification, guidance and support of talented students begins in

*Copies of the full report may be obtained by writing to Dean Gaede.

Published monthly during the academic year by the University of Colorado on behalf of the University Honors Information Service of the Inter-University Committee on the Superior Student at Hellems 112, University of Colorado. Second class postage paid at Boulder, Colorado.
Sent free of charge to interested persons on request.

Germany only after completion of the secondary school, at the time of university entrance. In contrast to the pre-university years, there is strong interest in the selection of able students, in their financial support, and to a certain extent also in their guidance. There is agreement that good students on this level should be free to concentrate on their studies without the distraction of financial difficulties or the need to seek employment, either during the semester or during vacation time (which is considered as important a time for study as the semester itself). In 1956 the government incorporated into its budget a considerable sum to give complete financial support to a selected group of students.

This sum is administered on the so-called *Honnefer Modell.* The responsibility for the expenditures lies with the *Bundesminister des Inneren* (Secretary of the Interior). The final decision on applications is delegated to the individual universities and institutions of higher rank. These decisions are made by a committee composed of one professor, one member of the university administration and one representative of the students. Students submit their applications to the *Studentenwerk,* a semi-official student organization, where the applications are scrutinized and prepared for the committee charged with the final decision. The amount of a scholarship varies with the student's financial situation, assessed in accordance with a scale determined by the Minister of the Interior.

In addition to the state system there are several foundations which concentrate on selecting students with the highest qualifications and which succeed, despite the mass character of German University education, in affording their students not only financial support but also individual guidance.

The oldest and foremost of these Foundations is the *Studienstiftung des deutschen Volkes.*

No student can apply for admission to the *Studienstiftung;* the recommendation must come from his secondary school or university. The selection is based on the principle of supporting students who are intellectually gifted, and whose personality gives promise of development not only as specialists, but as persons able to play a leading role in the life of the nation.

The Foundation asks for the usual papers to be submitted with the recommendation, but it also does more to safeguard the selection in accordance with its principles. It has, distributed over the whole area of the Bundesrepublik, a network of carefully selected persons who serve as *Vorprufer* (preliminary examiners). Each candidate recommended for admission meets with two of these *Vorprufer* separately for extended interviews. Reports on these interviews, together with all the material submitted, are critically evaluated by a member of the central office. A special committee makes the final selection, always, as a matter of principle, in the presence of at least one person who has met the candidate personally. This system is used because it was found that teachers tend to recommend highly young persons who most closely resemble their own professional type. For this and related reasons the practice was instituted of having the recommendations viewed by persons from various professions (not excluding professors) who had not been the applicants' teachers. The reviewers also interview the applicants, and in the course of their experience become adept at identifying the qualities they seek. For the academic year 1958-59 1,500 students were recommended, of whom 450 passed this rigorous selection procedure.

The aims of the Foundation include the concern with the development of the whole person. In each institution there

are one or more professors personally qualified to win the confidence of young people who accept responsibility for a group of 12 to 20 students admitted to the *Studienstiftung*. They meet with their students individually, discuss plans of study and other matters on which the students seek advice, and introduce them to their professors. Most of them also meet regularly with the group as a whole, for discussions, excursions and purely social gatherings. They seek to help their students in enlarging their horizons, to keep them from narrow specialization, to develop their active interest in meeting and understanding people.

The director of the Foundation and six assistants travel and keep in touch with the *Vorprufer,* counsellors and students, who remain under central office guidance throughout their studies. From their first contact with the students they emphasize the need for a broad approach to learning and for independent study.

Finally, in the face of an increasing demand for personnel with advanced schooling, ways are being sought to provide higher educational opportunities for those who did not receive the normal secondary school preparation for university study. By such means it is hoped that some of the talent lost through early selection will be saved.

ENGLAND

In England one finds general agreement that full educational opportunities must be offered to all young people in accordance with their abilities. Opinions differ, however, on the extent to which this aim has been attained. Some maintain that, with secondary schools plentiful, with ample provision for scholarships and development of what is called *Further Education,* relatively little talent is wasted; everyone can receive education to the limit of his abilities. Others are doubtful whether the provisions of the Education Act (1944) have been realized sufficiently to assure educational opportunities for all.

The clearly outlined ideal of a secondary school for all, guiding everyone toward an educational goal suitable for him, is not yet much more than a blueprint. Actually, for most boys and girls a decision about the future is made at the age of 11 or 12. The public still rejects the so-called comprehensive high school combining academic and practical studies, and prefers to submit children to an examination for admission to grammar school.

At the same time, efforts are being made to refine methods of observing and testing children and counseling parents on the choice of a school. In the selection procedure, the local education authorities are entrusted with the power of assigning each child to the most suitable school and are free to decide on the methods of selection. Criticism of the school reform centers to a great extent on dissatisfaction with techniques used for selection.

The fact remains that the important decision regarding the child's future is made at the age of eleven, and this decision is all the more important because transfer to grammar school after this age is uncommon and difficult. As in Germany, the aim of the examination is mainly to eliminate those whose abilities seem inadequate for the grammar school curriculum.

It is difficult to estimate how much opportunity for the development of his potentiality exists for the gifted student in the English grammar school, but in general one may say that the English system offers better opportunities for gifted students than do most countries of Western Europe. Such students, prior to admission to the university, may or may not get better attention and guidance but are, at any rate, freer in development and less overburdened by subject matter requirements than in Germany. In both

countries the educational separation of children at too early an age still constitutes an unsolved problem.

In determining admission to higher education, the English system employs an interesting combination of cooperating authorities. First the candidate must pass the standardized national examination for the General Certificate of Education. Here the gifted student has a chance for acceleration. The average age of candidates presenting themselves for examination is 16 or 17 years but in 1956 7.7% were under 16. In addition, those who complete the examination with "scholarship rating" are entitled to free higher education as state scholars.

When a student has qualified for university admission, he then must find a university which will accept him. In making the decision on whom to admit the university does not aim to ascertain the extent of the candidate's knowledge already certified by the general examination; it wishes to know *how* he knows what he knows. This it attempts to discover by means of a written paper or interview.

In all, the English method of selecting scholars for the university seems to do justice to the demand for identifying students who are best fitted for advanced study. In addition, it is remarkable how skillfully the responsibilities are distributed among the institutions of learning and the central and local authorities. It is noteworthy also that the Ministry will, if necessary, supply the local authorities with additional funds for scholarships, but not interfere with their decision-making. The money comes from different sources: scholarships granted by the universities from special funds, state scholarships and, most of all, grants by local educational authorities.

To determine the size of grant to the individual student the Ministry of Education has developed an income scale and standard figures of maintenance. The aim is to make the students' full time available for study without the need for outside employment; and this not only for the gifted students, who enjoy an additional financial advantage in that they are allowed to accept other grants than their scholarships. In the English system of university instruction, with its emphasis on tutorial work, the gifted student will also have innumerable opportunities for personal contact with his teachers, for freedom for independent study and for at least some guidance.

As in Germany, recognition of the loss of talent through early selection has led to a vast and important movement to provide access to higher studies for those who did not attend grammar school in preparation for the university.

FRANCE

There is in France a clear and widespread understanding that all individuals should be brought up to the highest possible level of education. It is also admitted that with its present educational system, the country loses much potential talent through insufficient or misdirected training of many young people. Reforms have been proposed but have not yet been fully put into effect.

Gifted students are stimulated to great efforts by the principle of competition which governs so many French examinations. Even before the baccalaureate, there is a nationwide competition to single out the best students in each subject in the country. Rank lists of those who reach high places in this competition are published, and the winners receive special honors and substantial prizes. No doubt these talented young students are challenged to develop their intellects to a high degree and pursue independent study over and above the ordinary requirements of their school assignments. But it is open to question whether the present motivation and

method of study is conducive to the best possible development of their interests. As one exceptionally gifted winner of two national prizes stated: "I was always obliged to put in ten times more work than my friends to amplify and deepen the study of assignments in preparation for the competition, but had no time left to take up and study problems which aroused my special interest."

The French are proud, and justifiably so, of the demanding intellectual training to which they subject their best students. But whether emphasis on intellectual achievement alone is the best way of developing the potential of these young people may be open to question.

Excellent provision for financial aid is made for the most gifted students at the university level. They may be admitted, again on the basis of a competitive examination, to one of the so-called *Grandes Ecoles,* special institutes where they not only receive full maintenance and waiver of all fees, but also have the advantage of studying in small groups, under the personal guidance of the best qualified professors. Again, as during the secondary school years, the decisive, almost the only factor, of selection is intellectual excellence. In repayment for their advantages these students have to give ten years of service in a public position after they pass the qualifying examinations.

Another road to the universities proper was opened in 1956. Persons 21 years old or over, not possessing the baccalaureate degree, may qualify by special examination for admission to one of the university faculties. An oral examination is conducted by a panel of three professors who try to ascertain the breadth and depth of the candidate's self-education, his motivation and further plans. The oral examination is followed by several written examinations. Examination papers from all universities are collected in the Ministry for evaluation by a special panel. It is expected that many talented people who might otherwise be ignored will gain admission to higher studies by this new method.

In the conclusion of the report, Dean Gaede evaluates his observations of European practices from the standpoint of their significance for our own problems and focuses on features which might be usefully adapted to American needs. Among these are:

1. Uniform scholarship scales such as those worked out in Germany and England.
2. Full subsistence so that study may be a full-time job—at least for the brightest students.
3. Outside interviews for scholarship and fellowship selection to supplement recommendations of applicant's teachers.
4. A balance of national policies and financial support with local authority and responsibility as worked out in England.
5. Continuous guidance by scholarship granting organizations to insure maximum development of the potential of the best students.

RECOMMENDATIONS ON TALENTED STUDENTS

Excerpts from the President's Science Advisory Committee Report

The committee accepts as a national goal the lifting of student performance to higher levels of excellence by greater motivation and by the provision of rewards for intellectual achievement and more adequate and extensive opportunities and challenges to the highly gifted student. To these ends we recommend that:

1. A nation-wide effort be made to pay more attention to the academically talented students (that is, those in the upper 15 to 20 per cent of their age group in intellectual ability) and to the unusually gifted students (that is, those in the upper 3 per cent of the age group). Such an effort should involve citizens, school boards, parents, teachers, together with state and national agencies, public and private. Talented students should be recognized at an early age and should be counselled in planning their educational programs and in preparing for and choosing college and university work.

2. These gifted students be given necessary help in financing their educational programs in high school as well as in college and in graduate school.

3. Such students be rewarded and encouraged for their achievement in order that they may take pride in intellectual excellence, even at an early age.

4. Programs of prizes and scholarships be extended into the high school level so that students even in remote and rural communities are enabled to attend high schools which will provide opportunities commensurate with their abilities.

5. Public and private agencies combine to offer on a national basis a much larger number of prizes than now exist to high school students for unusual intellectual achievement in important subject-matter fields.

Science and Techology

We are specifically concerned about the slow progress which many institutions of higher education seem to make in their dual task of (a) providing all their students with an adequate introduction to science and technology and the part they play in modern society, and (b) providing adequate educational programs for those with the talent for and interest in achieving professional careers in science, engineering and technology.

The separate liberal arts college and the college of arts and sciences of our great universities constitute basic training grounds for most of the leaders of tomorrow. We believe there are overwhelming reasons why such citizens should acquire a reasonable introduction to the principles of science and technology on which the modern industrial society is based. We conclude that scientists and scholars should give greater attention to assisting the undergraduate colleges in providing adequate programs in these fields.

The scientists and engineers of tomorrow will come from such colleges as well as from more specialized institutions. We believe that the rise of the modern technological society has created conditions which will almost certainly cause a permanent shortage of those highly competent in these fields.

TWO YALE PROGRAMS

Science in General Studies and Humanities for Engineers

The Directed Studies Program at Yale, an Honors program for freshmen and sophomores, was described by Professor James C. Haden in the December, 1958, issue of THE SUPERIOR STUDENT. Now in this issue two related Yale programs are described, the *Directed Studies in Science Program* and the *Carnegie Studies Program for Engineeers.* Both demonstrate ways in which the challenege presented by C. P. Snow (see the editorial above) to give laymen a knowledge of science and scientists a sense of the traditional culture is being met.

DIRECTED STUDIES IN SCIENCE

By **Harold G. Cassidy**
Department of Chemistry
Yale University

The Directed Studies in Science Program (DSS) is a direct outgrowth from the general Directed Studies Program. For the first twelve years of its functioning this attractive program was essentially a Humanities program because most science programs at Yale require both mathematics and chemistry or physics in the first year (unless the student has received an exemption from one or more of these requirements because of high-quality advanced work in secondary school), and most students in Directed Studies elect to take only mathematics or science in the first year (instead of both). In addition, since many of the best uncommitted entering students were going into Directed Studies they then were lost to the science departments.

The DSS Program was set up in part to correct this situation. Indeed, it was only through the strong support given by the Humanities program that the science program was able to develop.

The science program is based on three premises: 1) There are in the entering freshman class a considerable number of men who have relatively high aptitude and achievement scores—who are "good at everything"—and who do not know what kind of a career to undertake. 2) Most of these men have had good secondary school courses in mathematics and science, and so they represent, in cross section, the kinds of people who will be entering college in increasing numbers. 3) The increasing effect of science in shaping our culture makes it imperative that we develop scientifically literate laymen. The ordinary humanities program, with one or two courses in science or mathematics out of a total of twenty courses, cheats the modern student of some of the most exciting and significant developments of his life.

These three premises are supported by the following facts. For the first class in DSS (1958-59) we chose twenty students from 33 who applied. We took no one who had already decided to major in one of the established science departments. The mathematics aptitudes of these students were as follows: 800, 2 men; 765 to 799, 5 men; 700 to 764, 6 men; below 700, 7 men. The verbal aptitudes were somewhat lower: 700 to 762, 3 men;

650 to 699, 7 men; 600 to 649, 4 men; below 600, 6 men. Achievement scores in English ranged from 573 to 729. At the same time, these men had no clear notion of what they intended to major in. Thus our first premise was clearly supported.

The second premise is based on the fact that the NSF Summer Science Institutes, and other institutes for high school teachers are reaching more and more teachers (about 17% of them this last summer) and helping them upgrade their knowledge of science (physics, chemistry, biology) and mathematics. This means that the colleges will have progressively less remedial work to do, and will in fact be forced to upgrade their own offerings at the elementary level, as the students prepared by these teachers flow into college. What is now an Honors program may then serve as the pattern for an improved elementary curriculum.

The third premise hardly needs explicit support. People who are illiterate in science today are out of touch with a large, and by far the most vital, part of our culture. To permit a humanist to graduate with a college degree while he is so ignorant of the language of science that he cannot read *Science,* or the *Scientific American,* is to start him on an "education" under false pretenses. Excluded from large areas of inspiration and unable to savor the delights of a fertile field of intellectual endeavor, he is, indeed, robbed of a share of his birthright.

The central feature of the DSS Program is a sequence of specially designed courses. There is a two-year course in mathematics which allows the mathematics instructors to redesign their offering in the knowledge that they will have the same men in the same group for two consecutive years. There is a two-year sequence in science. The first year comprises a high-level combined physics and chemistry course taught in the light of the mathematics that the students are known to be studying. The second year is a high-level combined biology and geology course in which the fact that the students have all had the physics-chemistry course and a year of math is taken full advantage of. Both courses have specially designed and unusual laboratories. The students also take social science, literature and language (or elective if they have completed their language requirement) in their first year, and a special philosophy course, history and language (or elective) in their second year. Most departments will then accept the men as majors, and in many cases as majors with a much better than normal science and mathematics background. Only the Chemistry Department has reservations because of the absence of enough descriptive chemistry in their background—but a good high school chemistry course would remove this problem.

Naturally, the success of a program such as this depends entirely upon the ability and devotion of the teachers who participate in it—or rather, who create it. We have been able to attract to the program some of our most highly respected and highly placed professors. One of them stated, "The most exciting teaching I have ever done." Since a program like this provides a fine opportunity to tie together the sciences with mathematics and philosophy, it should also give more meaning to specialized courses taken later.

At the same time, no experiment such as this can be expected to operate faultlessly. Thus the literature professors felt that the response of the class was on the whole less than they had hoped. This may be traced to the temperamental makeup of a class which would elect such a course. Also, the program is expensive because of the high rank and salary of most of the teachers and of the small class size—in some of the courses the

group is divided into two classes of ten each.

The program is much too young—only a year old—and has included too few men to allow any firm conclusions about its worth. However, there is sufficient evidence to be encouraged to continue it. For one thing, at the end of the first year eleven members of the class planned to go into science and nine into the humanities—a fine balance. If the financial support which is being sought is forthcoming it will be continued and expanded somewhat.

HUMANITIES FOR ENGINEERS AT YALE

Robin W. Winks
Department of History
Yale University

For the last two years Yale University has been offering a special program in the humanities to superior undergraduate engineering degree candidates. This course of study, known as the Carnegie Studies Program and financed by the Carnegie Foundation, is similar in some respects to Yale College's Directed Studies Program, but it has an orientation of its own.

Entering freshmen in the School of Engineering may apply for entrance to the Carnegie Studies Program. Admission is limited to sixty students who have demonstrated a reasonably high verbal aptitude in addition to those aptitudes more readily associated with an engineering curriculum. Since the program requires the ability to read and assimilate a rather extensive body of material, as well as to learn to write with some precision, it is recommended only to those students who clearly have the potential for superior work.

The Carnegie Studies Program offers "a carefully organized combination of specially designed courses" which attempt to provide the engineer with fairly extensive training in the thought patterns normally associated with the liberal arts. Because of the quantitative nature of the engineer's program, and of the natural tendency of the mathematically-inclined to attempt to bring exactness into the area of human relations, the program consciously strives to demonstrate that when dealing with qualitative, subjective, "human" areas, one must be willing to think less in terms of exact conclusions and more in terms of finding partial rather than exact solutions.

Freshmen and sophomores in the program take two-year courses in common each year in addition to their pre-engineering work. The courses are presented in sequence which necessitates entry at the beginning. "Readings in Literature" and "The Historical Origins of the Modern World" are the freshman courses. "Studies in Society" and "Ways of Knowing" are for sophomores. Building upon this base the students select two electives in each of their last two years. Presumably these four electives will be chosen from courses which will supplement the general purposes of the Carnegie Studies Program, although they need not be.

Though the program and course titles may sound rather traditional, the presentation is not. Each course intensifies and accelerates the work of its traditional equivalent. The one year of "Readings in Literature" fulfills the usual Engineering School requirement of two years of college work in English. The first semester of "Studies in Society," devoted to economics, fulfills a year requirement in this subject while the other semester is devoted to an introduction to the behavioral sciences, and is taught by a sociologist and a psychologist. Since the Engineering School does not require his-

tory or philosophy, these courses do not receive such formalized recognition, but every effort is made to introduce the Carnegie students to the widest possible spectrum of content and approach in these two disciplines. "Ways of Knowing" examines the problem of value judgments and is intended in part as an attempt to integrate the work of the program at the end of the student's second year.

The courses use both lectures and small discussion sections. In the history course there are two lectures each week presented alternately by two historians. Guest lectures on special topics are also used and there are four extra-curricular special lectures each term followed by an informal gathering of guest, students and staff.

Coordination between courses is close. Papers in history are graded on style and presentation while the history staff tries to incorporate into the history discussions the literary works read in the English course.

From two years of experience with the program, the writer would say that his Carnegie Studies students are far superior in performance, both in terms of originality and comprehension to his regular Yale College undergraduates in history courses.

AN HONORS PROGRAM IN ELECTRICAL ENGINEERING

The Polytechnic Institute of Brooklyn

The junior class in electrical engineering at the Polytechnic Institute of Brooklyn each year numbers from 100 to 150 full-time day students. There are always a small number who by virtue of unusual ability, do not need the repetition and extensive drill that the typical student requires. In addition, these students are able to study the undergraduate material at a higher level, to penetrate to greater depths, and to apply their knowledge to a wider range of engineering applications.

One objective of the Honors Program is to make use of time that is normally spent in repetition and drill to cover portions of the undergraduate program at a substantially higher level or at a faster rate than normal. The Honor students then can take some courses during their junior year, and a considerable fraction of their work during the senior year in the graduate school. It is therefore expected that some of these students will be able to complete the requirements for the doctor's degree within six years after entering college as freshmen.

Another objective of the program is to bring these energetic and imaginative Honor students together as a group, dedicated to learning, under the direction of junior and senior staff members having special qualifications and interest in the program. The close association of each student in the group with others of similar high abilities and motivations, the cooperative efforts of the group, and the friendly rivalries for scholarly achievement are of great value to student and staff alike. Of particular importance is the fact that the students feel a special re-

sponsibility to do their very best work. It is not to be inferred, however, that the Honor students are separated or isolated from the general student body. On the contrary, in spite of their heavy load of studies they are among the most active students in the normal undergraduate extra-curricular activities.

The number of students admitted to the program is restricted, for several reasons, to 10 to 15. Students making either A or B in their sophomore mathematics and electrical engineering courses are eligible. The final choice is made from this group on the basis of the recommendations and personal interviews. The program for the junior year provides for six or eight hours per week of informal, but carefully prepared lectures on electrical engineering subjects. The Honor students also take the normal junior-year courses in mathematics, humanities and mechanics, often in special sections with high-ranking students from other departments. The Honors Program also provides four to six hours per week for conferences with junior staff members in which the students' problems and special difficulties are discussed.

The program for the senior year is similar to that for the junior year except that more independent study is expected and encouraged. The junior and senior year programs are planned so that the students can at any point withdraw from the Honors Program and return to the regular undergraduate program. So far, no one has exercised this prerogative.

HONORS COURSE IN PHYSICS

at the University of California

by **William B. Fretter**
Professor of Physics
University of California (Berkeley)

An Honors Course in Physics was given for the first time at the University of California in the Fall of 1958 and is continuing at the present time. The course was designed as part of an Honors Program instituted by the College of Letters and Science at Berkeley. The two sections of the course are taught by Professor A. C. Helmholz, Chairman of the Department of Chemistry and the writer of this report.

The Department of Physics set aside a special room for the Honors Program and encouraged students in the program to use it as their headquarters on campus. No other students were allowed in the room which was provided with tables, chairs, blackboards and, most importantly, a small library of some 30 volumes of books not normally bought by students as textbooks. Copies of the *Physical Review, Physical Review Letters, Physics Today* and *Science* were also kept in the room.

The two instructors did not follow exactly the same procedure, although they both used the seminar format with students doing most of the talking. There were two meetings per week. During the first semester, sections of a standard work, *Theoretical Physics* by Georg Joos, were discussed and reports on current articles, particularly in the *Physical Re-*

view Letters, were presented by the students. Most of the students were seniors and were able to make reports which, while they were not at a professional level, were not superficial.

During the second semester the writer employed a different technique. To get away from standard classroom procedures, a central theme, the physics of the sun, was chosen and the students were asked to select a certain aspect of the sun, such as its equilibrium, radiation, source of energy, etc., on which to concentrate. This approach was more successful and generated more enthusiasm than the more conventional approach of the first semester although not all students wished to go so far away from the conventionalities of physics.

Further experimental procedures on the course should reveal other desirable ways to stimulate and enrich the work of these Honors students. Most important, however, is the attention given to small groups of Honor students by regular faculty members and the provision of a place and a library for their use.

UCLA's Special Program for High School Students

By **Eli Sobel**
Associate Dean
College of Letters and Science
University of California, Los Angeles

Background

In the spring of 1958 administrators from the University of California, Los Angeles, proposed a program of enrichment and acceleration for superior high school seniors to two nearby high schools. The essence of the proposal was to give selected high school seniors the opportunity to take college courses concurrently with their last year's work in high school. The courses were specifically not to be applied toward credit for the high school diploma. Such an arrangement, it was felt, would afford the gifted high school student a source of intellectual stimulation beyond that which the resources of his high school could afford and permit him eventually either to finish his college work a semester or so earlier or provide room for more electives and advanced work in college.

It was proposed that the selected student would be on the University campus either from 8:00 to 10:00 A.M. or from 2:00 P.M. on. His social life would still center around his high school. He would be given spectator privileges for college athletic and campus cultural events, but would not be permited to join college organizations such as clubs or fraternities, nor participate in college activities such as athletics or the usual extra-curricular campus activities of undergraduates. He could enjoy the advantages of his last year in high school and remain, as far as his social development was concerned, essentially a high school student. Yet he would be able to take advantage of the kind of intellectual and academic material for which he was equipped. Thus some of the disadvantages of programs which take students out of their high school environment would be avoided.

The high schools and the various school boards responded with interest. Plans were made for professional counselors from the UCLA Student Counseling Center and the College of Letters and Science office to visit the high schools and test the nominees. The Beverly Hills system made all students with a "B" average or better in college preparatory subjects eligible to take the screening test. A similar plan was followed by University High School of the Los Angeles City School System. Selection for the UCLA special program was based on high school grade-point average (college preparatory courses only) and upon the students' test scores. The test made it possible to identify and select superior students as well as under-achievers whose test scores indicated a high probability of success from a group with uniformly high grade-point averages. No student finally selected had less than a 3.3 average in high school (where "A" is 4.0 and "B" is 3.0), and in every individual case the high school principal had the right of final approval or denial of participation in the University program.

From those tested, 44 students were selected by their respective high schools as their candidates for the experimental program and of these, 18 women and 22 men elected to enroll in the program.

Later in the spring of 1958, the Dean of the College of Letters and Science, the Dean of Students, and other UCLA officials met with the high school officials, the students, and their parents for a general orientation, discussion and question period. Some of the questions had to do with whether the college courses taken by the students at UCLA would count for college credit at other institutions. Many of the students, of course, planned to attend elsewhere after high school graduation. Such questions were settled by individual inquiry to the university or college involved. Thus far every queried institution has agreed to accept the UCLA course work for college credit, except one which reserved the right to validate the credit by proficiency examination.

It was also carefully emphasized to the students and their parents that participation in the program meant the establishment of a *permanent* college record; that unsatisfactory course grades ("D" and "F") would be as indelibly recorded as the satisfactory University grades they were fully expected to achieve. Of course the regular University procedures also were to apply; e.g., upon student petition, withdrawal from a course without penalty, in accord with existing Academic Senate legislation, would be allowed.

Implementation

Once the student were selected, the following steps were taken:

1. The Dean of the College approached the academic departments for the nomination of representative courses that would fill the needs of such students, and the nomination of instructors who would be interested in having such selected high school students officially enrolled in their classes to participate and be graded along with the regular UCLA students.

2. The selected students went through the normal University administrative procedures for admission as regularly enrolled college students. The procedures required the submission of high school transcripts to date, the usual personal information, and the customary medical examination which entitles the student to the services of the University Student Health Service, just as in the case of any other regularly enrolled student. His papers were processed in such a way that he would go through the registration procedure and be listed in the Registrar's Office as a regular student. Each student also received a stack permit for the Uni-

versity library—a privilege ordinarily reserved for faculty, graduate students, and under-graduates with outstanding scholarship records.

3. University counselors visited the two high schools and together with the student and his high school counselor arranged an academic program for each student. The student indicated his interests; the College counselor worked out with him the best college courses to fulfill these interests; and the high school counselor worked out his high school course program so as to fit his attendance on the University campus, either in the first two high school periods of the morning or in the last two high school periods of the afternoon, in order that there might be a solid block of four periods of course work at the high school, as required by state law.

4. The Dean of the college wrote to each faculty member involved in the student's choice of program, preparing the instructor for the student's enrollment in his class. At the time of registration, both Fall and Spring, each student was given a letter from the Dean identifying the student as a member of the program and listing the courses in which he was planning to enroll. This letter was used as an introduction to the instructor on the first day of the student's attendance in class.

5. The College provided personnel for the program under an Associate Dean in charge of programs for Honors and gifted students. A special College counselor was appointed to assist the student with his selection of courses and with those matters relating to his academic course work and college degree requirements. The Student Counseling Center assigned one of its counseling psychologists to work with the College to provide such additional counseling as might be appropriate and to conduct a continuing appraisal of the program for the benefit of the interested University offices (Office of Relations with Schools, Dean of Students, Board of Admissions, etc.) and secondary school administrators.

6. A special registration procedure was set up for the students By prior arrangement, all University fees for the 40 students in the experimental program were paid by the President of the University from a special fund.

Results

In their first semester's work (Fall 1958) the forty students took 73 courses in 19 departments, totalling 223 units and earned a 3.3 University grade-point average. No grade was below "C", and the grade pattern was 102 units of "A", 86 units of "B", and 35 units of "C". (The men outranked the women: 3.39 against 3.19). The courses were regular College of Letters and Science and College of Applied Arts courses in an assortment from anthropology through zoology.

In the Spring semester, 1959, the students improved their academic standing. Forty students registered in the Fall and thirty-nine (20 men and 19 women) in the Spring. The 39 took 63 courses in 17 departments, totalling 184 units and earned a 3.48 grade-point average, up considerably from the 3.30 of the Fall semester. No grade was below "C". This time the women outranked the men, 3.57 against 3.37. A rather remarkable achievement was the combined average of the nine women from one of the high schools with a grade-point average of 3.69. Eighteen of the thirty-nine made an "A" average in the Spring against twelve in the Fall. Also notable was the decided drop in the number of "C" units, from 35 down to 13. The fewer total units attempted in the Spring is directly attributable to the prolific participation by the students in high school activities during the final term. For those students

heavily involved (newspaper and yearbook editors, major senior play parts) the College counselor recommended only one University course.

A careful check with the high schools revealed that the students were performing there as well as, or perhaps better than, prior to participation in the UCLA program. Many were National Merit Scholarship finalists and award winners as well as winners of other scholarships and prizes.

Consequences

Because of the success of the experimental year the program was expanded to include all high schools, public and private, within seven to eight miles of the UCLA campus.* The Los Angeles, Culver City, and Beverly Hills school systems readily agreed to participate in 1959-1960. Eleven schools (nine public, two private) serving a total high school population of 20,983, are involved in the 1959-1960 program. Approximately 10% of the high junior and low senior population in the 11 high schools, or 714 out of 6914, were tested during spring, 1959, and of these, the top 18% (126 students) were declared eligible. They constituted the upper 2% of their classes. Fifty women and fifty-two men have chosen to participate in the present program.

All the parent-student, counseling, and conferences set up for the 1958-1959 students were repeated for the new larger group and the counseling services will again be available through the academic year. However, unlike the prior year, fees for the 102 students will not automatically be deferred. The President of the University has made funds available to pay the required fees for all those who have indicated need of financial assistance. No high school student will be lost to the program because of the expenses involved. Transportation to and from the University has been treated as a private matter by the high schools and the University except that the University provides campus automobile parking permits for car-pool groups of at least four students.

At this writing, unbelievably, there are to our knowledge, no dissatisfied parties; the students, parents, high school faculty and administrators, and the University faculty and administrators all seem agreed that the special high school program is a successful attempt to do something for the superior high school student. *Quid sit futurum cras, fuge quaerere.*

Another College—High School Program:/Vanderbilt University

Dean Ewing P. Shahan reports that in addition to early admission and advanced placement programs, Vanderbilt permits able high school students to take regular freshman courses in the summer session. These courses must be taken with the advice of the high school counsellors and coordinated with the student's past and future high school work. It was expected that this would make it possible for high school students to take subjects, such as Russian, which are not offered at the secondary level, and also to take college-level science, mathematics or history courses rather than taking these same subjects in high school on a less demanding basis.

As compared with early admission, this program has the advantage that it leaves the student with his normal age group throughout high school and college, and, as compared with advanced standing toward the college degree, it makes it unnecessary to examine the student especially to find whether he has actually done college-level work.**

*Similar programs have been established at the **University of California at Berkeley,** with eleven participating high schools and fifty students the first year, and at the **University of Redlands.**
A comparable program at the **University of Louisville was described in THE SUPERIOR STUDENT (October, 1958) 7.

SUPERIOR STUDENTS IN **THE LIBERAL ARTS PROGRAM** AT NOTRE DAME

By **Charles Sheedy, C.S.C.**
Dean of the College of Arts and Letters
University of Notre Dame

Work with superior students in the Liberal Arts College at Notre Dame can be divided into four stages: identification, observation of achievements, academic guidance, and career counseling.

Identification begins during the summer before the freshmen arrive on the campus and is based on a composite of four factors:

1. High rank in class in a high school known to be good and exacting.

2. High grades, mostly A's or equivalent, in a high school course substantial both in quantity and quality. Thus four years of mathematics and foreign language, two of history and two years in two different sciences, would look more promising than less of these and more vocational studies.

3. A composite score of 1300 (V650, M650) or above on the Scholastic Aptitude Test of the College Entrance Examination, and corresponding achievement scores in English, foreign language and intermediate mathematics.

4. A good recommendation of principal or counsellor about the student's character and work habits.

If the student's record is consistent in all four of these criteria, weighted somewhat (the weighting would run just about as listed above, 1, 2, 3, 4) he is thought of as potentially superior before he arrives. About one tenth of the entering class (50 to 60 freshmen) would fall into this group, and they are "sectioned" together in the courses of the freshman year.

After the first semester of college work, the student's Notre Dame *achievement* enters the picture. An average close to or above 5 on a scale of 6 (4.5 is B+, dean's list average and sufficient for *cum laude* at graduation) is the standard used to determine whether students will be removed from, remain in, or enter the program. However, a student talented in a single area will get recognition and support if his abilities are very high in that area.

For these selected students Notre Dame's Liberal Arts College does not have a standardized Honors Program, but follows rather a highly personal and individual procedure making use of careful *academic guidance*. The chairman and members of the faculty Committee on Academic Progress direct the studies of superior students, with approval of programs by the dean. Just about any variation of program may take place, according to the interest, initiative and ability of the student. Sophomore requirements may be by-passed to allow a student to begin his major sequence in the second instead of the normal third year. Course overload may be permitted to enrich the student's program. If a student with good reason does not wish to major in any particular department, he is not required to do so; but he must do as "specialized" a senior essay as any undergraduate could be expected to do. One or more courses of the senior year may be waived to allow more time for independent work, particularly on the essay. Accelerated graduation is also possible. All of these arrangements, and others, may take place and have taken place, but always on an individual basis, and with responsibility in the Committee to see to

it that the student actually performs up to Honors standards.

Formal academic arrangements are supplemented by other activities for selected students. They are interviewed from time to time before boards of the Committee on Academic Progress. These are useful not only to help point up interests and check progress, but also to give experience for possible future interviews before Woodrow Wilson, Rhodes, Danforth and other committees.* Small gatherings are arranged in which these students meet informally with Notre Dame professors and visitors. The attempt is made to draw superior students more actively and intimately into the actual center of the intellectual life of the university. More than the less gifted, the superior students take pains to know members of the faculty.

These students tend to congregate in the same residence halls. Some of them belong to various pro-academic student societies in which papers are read and discussed in a dignified manner. They explore the university calendar thoroughly and are more likely than the average to be among those present at lectures, symposia, recitals and exhibits. Through such activities they exert a powerful influence on other students, particularly those in the echelon just beneath them. Generally their influence helps create esteem for intellectual excellence. Of course wherever singling-out takes place there will be some abuses: immature arrogance and intolerance, danger of coddling and spoiling, some imitation and fakery; but these can be spotted and controlled by close association with the group.

The final procedure in the plan is the *counseling* for careers. Some of the best students are encouraged to pursue an academic career. The dean's list is published and fellowship announcements and awards each year are prominently displayed. An invitational meeting is held for juniors and seniors to describe the requirements and deadlines of all of the major scholarship opportunities.

Out of Liberal Arts and Science graduating classes of about 325 in 1958 and 1959, forty-one won Woodrow Wilson Fellowships. Seven graduates held Danforth Fellowships last year. There have been two Rhodes Scholars since 1956 and one Marshall Scholar.

But the superior students are not pushed into the academic life. Law, medicine and the priesthood are respected, and so are business and industry, and interest in these careers is encouraged. The idea is not to *deflect* the interests of any committed person, but rather to direct the uncommitted—and of these some of the best—into the intellectual life as a career.

*For an account of an extensive program for identifying and assisting proespective fellowship candidates at the University of Pittsburgh see Hans Rosenhaupt, "Identifying College Students of Great Promise." THE JOURNAL OF HIGHER EDUCATION (October, 1959) 395-398.

The *Enrichment Program* at Baldwin-Wallace College

by **Donald S. Dean**

Chairman, Committee on Enrichment
Baldwin-Wallace College

When an analysis of the intelligence scores of students enrolled at Baldwin-Wallace showed a substantial number with outstanding mental ability, the reaction of many faculty members was to exclaim, "Where are these students? They are not taking my classes!"

It seemed clear that these students with more than ordinary intellectual endowment had more than ordinary ability to keep their talents a secret. Too many were content to do well what was required of them, but no more. As might be expected, a committee was charged with the responsibility of preparing a plan for challenging the able student to make full use of his abilities.

The committee decided to concentrate its efforts on the freshmen since habits and attitudes established in the first year might be expected to set a pattern for the next three years. After a year of study and planning and a year of operating the proposed program, the committee is encouraged to believe that such a program is worthwhile.

Twenty-two freshmen were selected on the basis of their entrance records, recommendations of high school officials, and their expressed willingness to participate in an experimental program. These students took about half of their work in special sections of English, History and Religion designed for them. Since freshmen are required to take these subjects, it was possible to set aside a single class of each without creating scheduling difficulties. Unfortunately, no way was found to schedule special sections in the languages and sciences, since students may satisfy these requirements in so many different ways.

These enrichment sections were staffed with faculty members who were especially interested in intellectually stimulating approaches to education. They were given complete freedom to develop their own techniques, but they were asked to emphasize quality rather than quantity and enrichment rather than acceleration.

The committee proceeded with as little publicity as possible. Every effort was made to convey the students the idea that superior ability is to be used to the fullest and with a sense of responsibility and that they had no reason to boast of gifts which had come their way through a fortuitous combination of genes. The committee avoided the use of terms such as "superior students" and "gifted students." The class was called the experimental class or the enrichment class, but the students soon called themselves the "X's" after the designation added to the course number. It was generally felt that the modest, diligent approach of the students justified this policy.

The students chosen were well accepted on campus. They took a normal place in social and extra-curricular affairs, but without the extravagances common to many college students. A warm group spirit arose among the students in the class and between the students and the faculty members teaching the sections. It is interesting that students were very much impressed with the ability of the other students in the class. For some, it was a new experience to find the others in their class doing just as well as they.

This group spirit resulted in vigorous interplay in class discussions. The students, more than others, found that intellectual activities are often exciting and fun. This idea was encouraged by taking the students as a group to the art museum and to special films and plays. Discus-

sions with a competent leader followed these events.

Many questions were raised about the problem of grading these students. It was felt that they should not be penalized for participating in the class by being graded on a curve, but that good grades should not be guaranteed. It was decided that the students were to be given the same grades as those they would have earned for comparable work in standard classes. As would be expected, grades were higher than in standard classes.

Some faculty members feared that setting up a special section would skim the leadership from other classes. A poll of faculty members teaching standard freshman courses showed, however, that this problem did not develop to a significant extent.

Participation in the class was voluntary, but freshmen were expected to participate in all special classes if they enrolled in the program. At the end of each quarter, students were allowed to drop and six were added during the year. No students withdrew or were asked to withdraw during the year, but two chose not to continue beyond the first year and two with grade averages slightly below "B" were asked to withdraw at the end of the year.

Faculty members found teaching the enrichment classes a stimulating experience. One described the endeavor as the high point of his teaching experience. Another wrote that he seldom had enjoyed teaching a class as much. Another added that teaching this section had a discernible effect upon his other classes in the sense that new approaches developed in that course sometimes could be applied to other classes with profit.

The program for the freshmen is being continued this year, and last year's freshmen will have an opportunity to participate in similarly enriched classes in the subjects required of sophomores. To accommodate students who will find it difficult to schedule all of these classes and to avoid the establishment of an excessively exclusive elite group, the sophomore program will not be as tightly organized as the freshman program. Selected students who have proved their ability as freshmen outside the program may take these sophomore courses with the special section.

The Enrichment Committee is actively seeking ways to maintain the momentum of the freshman year and to encourage active scholarship and inquiry in the upper classes. One of the most promising experiments initiated this year has been to bind for permanent display in the library all papers accepted in connection with Honors courses. It is expected that this practice will encourage good work by rewarding the student who has done well and by furnishing an example to others. At the same time, the fact that Honors work will be available for comparison and evaluation by anyone who chooses to examine it should have a marked effect upon performance.

The enrichment program at Baldwin-Wallace will surely evolve from its present form as experience indicates desirable improvements, but it seems to have earned its place on campus.

A Visit to the *NORTHWEST*

by **Joseph W. Cohen**
Director, Inter-university Committee
on the Superior Student

Institutions visited:

Idaho State College
University of Idaho
Montana State College
Washington State University
University of Washington
Western Washington College of Education
Oregon State College
Portland State College
University of Oregon
Willamette University

Ten other institutions were represented in general meetings on some of the above campuses.

This visit was preceded by my attendance at the Pacific Northwest Conference on Higher Education at Southern Oregon College in Ashland at the end of July—a perfectly managed conference with special emphasis on the gifted student.

From September 28 to October 20 I visited the colleges listed above with further personal contacts at Reed and the University of British Columbia.

My outstanding impressions during the trip were:

1. In contrast to the limited interest in Honors programs in this area at the time of an earlier visit at the end of 1956, there is now a clear recognition in every institution with which I had contact of the need for Honors programs. Indeed, the progress already made toward their establishment is impressive, with some already under way or about to start in 1960 or 1961.

All the institutions have been reached by this newsletter and have felt the effects of the proceedings of the Ashland Conference and the aftermath of Dr. Conant's Washington Invitational Conference on the Academically Gifted in the Secondary Schools in February, 1957.

New approaches in secondary schools (Washington and Oregon) and even in elementary schools (Portland) are having their influence on the colleges. Activities which focus attention on the gifted have left their mark on the minds of educators at all levels. Among the more influential of these have been the Advanced Placement Program, the work of such organizations as the Merit Scholarship Corporation, the Educational Testing Service and the Center for the Study of Higher Education in Berkeley. Emphasis on the gifted at such broad conferences as those of the AHE, ACE and WICHE has also had its impact.

Understanding and sophistication in Honors thinking was therefore the notable thing. The presidents whom I met, C. E. Odegaard of the University of Washington, O. M. Wilson of the University of Oregon, A. L. Strand of Oregon State College, R. R. Renne of Montana State College, and the newly inaugurated B. P. Millar of Portland State were well informed on the implications of Honors programs. Deans, Honors Committees and many faculty men were thoroughly conversant with the central issues in theory and practice.

2. In frequent and lively consultations with students I found intense excitement with the Honors idea and interest in the ICSS point of view. I spoke to large groups of students at Oregon State College and the University of Oregon and to a smaller group at Idaho State College.

A group of student leaders at the University of Washington sought an impromptu late evening interview with me on their own initiative. I also visited a lively colloquium of seniors in a Portland high school taught by a Reed graduate.

These college students were pressing for Honors programs and willing to participate in their implementation or expansion. They wanted programs made accessible to more students, including good students from professional schools. One group expressed delighted anticipation of a contemplated Honors center.

3. In several places I found initiative being taken for Honors programs in professional schools and science departments. At the University of Washington the School of Business has a going program, and, in a meeting with me, members of the medical school faculty there evinced interest in developing in an Honors direction an interesting research program.

4. Junior college and secondary school people were present at several meetings, significant indication of the attention to educational continuity which exists in this region.

5. A frequently repeated question was whether it is necessary to wait to start a program until all phases of it could be established or whether a step by step approach could be used?* The answer was, of course, that one starts where and when one can and works toward a complete program.

Other recurrent questions were:

a) How can one know and prove that the Honors idea is good?

b) What are the effects of ability sectioning? Does this practice deprive the rest of the students of academic stimulation and leadership?

c) Is not the major aim of establishing an Honors program as much the improvement and stimulation of faculty as meeting the needs of students?

d) What are the comparative advantages of starting Honors with the freshmen or with upperclassmen?

e) Should departments be invited to experiment with departmental or interdepartmental Honors courses for nonmajors or should such programs be established by a separate Honors set-up?

Many questions indicated a concern with all-university Honors programs. Among these were:

f) How can the relation between schools in an all-university program be worked out, particularly between liberal arts and professional schools under the varying conditions of strength or weakness of each of these schools relative to the total economy of the university; or, more specifically, what should be the status of liberal arts Honors on a campus dominated by professional schools, or, visa versa, of a professional school program on a campus dominated by liberal arts?

g) Should the budget for Honors be centralized or should there be separate allocations to the several departments and/or schools?

h) What should be done when there are two or three major state institutions which by virtue only of former policy decisions by state authorities find themselves divided from each other by traditions of academic status—one supposedly first-class, others second or third-class? Do not good students come to all of them and deserve equal chances at excellence? How can we overcome the obstacles of ingrained faculty or administrative attitudes of inferiority and superiority?

None of the above are problems peculiar to the Northwest and are matters with which we must deal in the future.

*See the 14 points for a full program in THE SUPERIOR STUDENT (October, 1959) 4-5.

notes and comments

The faculty of the UNIVERSITY OF OREGON has voted to establish an HONORS COLLEGE. Dr. H. T. KOPLIN, Professor of Economics, has been named as the first director. The college will open in September, 1960, but qualified freshmen who entered in 1959 were encouraged to plan their programs to qualify for admission to the Honors College as sophomores in 1960. A full description by Dr. Koplin will appear in an early issue of THE SUPERIOR STUDENT.

●

Last summer THE STATE UNIVERSITY OF SOUTH DAKOTA at Vermillion held its second Summer Institute for High School Honors Students.* This year the program was supported by a grant from the National Science Foundation. During the first summer only mathematics and English were taught. The curriculum of the second Institute was expanded to include a special project for each student in the Arts and Sciences department of his choice. The presence of a language institute on campus in the summer of 1959 made it possible, moreover, to offer foreign language instruction to those Honors Institute students who wished such instruction.

Heads of 14 Arts and Sciences departments helped direct Honors Institute students in the special projects. The projects were conceived as being essentially research, either in the laboratory, the library, or the field, and were to center around a single problem or an integrated series of problems. The students worked two or three hours a day on their projects during the six weeks and submitted written reports at the end of the period.

Eighteen of the thirty students chose science or mathematics projects and the subjects ranged from the "Trigonometry of Right Triangles" to "A Study of the Legend of Don Juan."

Five weekly seminar discussions were held. The first two were "round-table" meetings with 15 students in each discussion group. The last three were attended by the 30 students asked questions, students had access to the Honors Seminar Library, a collection of more than 300 attractive books and magazines in the areas of science, mathematics, social science, and humanities. Certain books in multiple copies were assigned reading for three of the seminars, but many other books were used by the students for their special projects or to satisfy their curiosities about particular subjects. Seminar topics were Astronomy, The Race Problem and Evolution. At the last two seminars there were oral reports on special projects.

The director, SHERWOOD CUMMINGS, canvassed opinions on the projects from all participants and found complete agreement on its value. High School superintendents have been invited to evaluate the influence of the Institute on the students.

---

*See "Notes and Comments," THE SUPERIOR STUDENT (May, 1958) 16 and "Developing High School Talent," THE SUPERIOR STUDENT (December, 1958) 14.

GEORGE R. WAGGONER, Dean of the College of Liberal Arts and Sciences, UNIVERSITY OF KANSAS, and member of the ICSS executive committee has an article in the October issue of THE EDUCATIONAL RECORD entitled "The Development of Programs for the Superior Student in Large Universities." Dean Waggoner surveys the considerations leading to new university programs for the gifted, describes the principle patterns of these programs and indicates some of the evaluation studies which are being undertaken.

●

At the UNIVERSITY OF MASSACHUSETTS selected freshmen and sophomores are chosen as Deans Scholars on the basis of high school records, performance on aptitude and advanced placement examinations, college performance, and faculty recommendations. They have special privileges and advising and participate in antegrated symposium which visiting lecturers are invited to attend. There are currently 150 Sophomore Deans Scholars and about 170 freshmen will be selected this year.

●

This fall the College of Arts and Sciences of the AMERICAN UNIVERSITY is putting into effect a new program for its academically talented students. According to Dean RALPH C. JOHN, the program is "designed to facilitate both acceleration and experience in depth in the liberal arts fields."

A general Honors Program, designed for freshmen and sophomores and covering all four semesters of the first two academic years, consists of a series of colloquia in charge of an Honors Professor. He will be a member ex-officio of the College Honors Board and is appointed on the basis of recommendations of the Board. He may be drawn from the present faculty or be hired specifically for the job. In either case, his Honors counselling will be equated with a half-time teaching load and one-half of a full-time salary will be budgeted for this purpose. The selection of students, topics to be discussed and educational approaches to be used in each colloquium are to be shared by the Honors Professor and the Honors Board, with higher authority residing in the Board.

An Honors sequence for General and Departmental Honors is proposed as follows:

1. General Honors I and II—a very general topic each semester focusing upon general meaning and value considerations such as "Concepts of Justice in Western Civilization" and "Major Modes of Human Knowledge."
2. General Honors III and IV—a somewhat more specialized or restricted topic each semester such as "Aspects of Humanism" and "Science and Technology in Contemporary Society."
3. Departmental Honors I and II—independent reading and research under direction of departmental advisors. Emphasis upon interdisciplinary relationships of major field.
4. Departmental Honors III and IV—specialized reading and research. Emphasis upon advanced theoretical concepts of major field.

To insure flexibility, these topics for the present are defined in general

terms, with approval of the specific subjects to be made from year to year by the Honors Board.

The Departmental Honors Program for juniors and seniors has been substantially recast and expanded and will be conducted on a tutorial basis.

The College of Arts and Sciences has also adopted an Advanced Placement Plan and an Advanced Standing Program.

●

The University of Michigan through its CENTER FOR THE STUDY OF HIGHER EDUCATION will again offer fellowships for the academic year 1960-61. They are of two types: (1) The Michigan Fellows in College Administration, five in number, devote the year to study, internships, research and other experiences that are intended to help prepare them for college and university administration. On a postdoctoral basis, or equivalent, the fellowships cover living and incidental expenses up to a maximum of $8,000. (2) The graduate fellowships in higher education are for predoctoral students who need assistance in completing the degree and who show promise of contributing to research on the problems of higher education. They vary in amounts from $1000 to $3000, depending upon need.

Applicants for either type of fellowship should be under 40 years of age. Application forms and a circular descriptive of the program may be secured from the Center for the Study of Higher Education, The University of Michigan, Ann Arbor. The deadline for applications is February 1.

The program at Michigan is supported by a grant of funds from the Carnegie Corporation of New York.

●

Among the special features of the program for superior students at GREENVILLE COLLEGE are the use of superior students as occasional substitutes and teaching assistants in regular classes and the designation of selected students as Greenville College Scholars. They are given recognition in Honors Chapels and have the privilege of taking one course each semester without paying tuition.

●

This fall CLARKE COLLEGE has introduced a new type of recognition for superior students. The seven top-ranking freshmen in the Honors at Entrance group are admitted as Mary Gervase Scholars, with the privilege of attending meetings of the Clarke Honor Society.

At Clarke, Honors at Entrance are given without reference to financial status. They carry no monetary grant, and are awarded to students of outstanding academic achievement and potential, demonstrated on high school records and on College Entrance Examination Board tests.

Clarke scholarships are merited by gifted students who need financial assistance and who make application for monetary grants. The extent of financial need is established by College Scholarship Service, a non-profit organization which evaluates confidential statements supplied by parents, and guides the college in the allocation of unrestricted scholarship funds. No public announcement is made of such assistance.

The School of Science at OREGON STATE COLLEGE has established a full Honors Program. Entering freshmen must come from the upper third of their graduating classes and have an average above B in science and mathematics. Provision is made for admission to the program on the basis of college performance.

All freshmen and sophomores in the Honors Program have the same basic Honors requirements administered by the School of Science Honors Council. They have Honors sections in chemistry, physics, mathematics and English. They must develop a reading knowledge of one foreign language and enroll in a special Honors course in which they are given independent assignments and submit reports.

In the upper division, Honors work is under the supervision of the individual departments. In the senior year, all Honors students enroll in a two-hour colloquium in the philosophy of science and all must take a departmental oral examination. Honors are awarded in the field of specialization.

A School of Science Honors Council, appointed by the Dean, serves as a coordinating and advisory body. Each department has an Honors committee which is responsible for the departmental program.

●

Since the fall of 1957, the top ten per cent of students in each entering freshman class at the UNIVERSITY OF UTAH have been offered the opportunity of taking the Graduate Record Examination General Area Tests in Humanities, Natural Science and Social Science.

Any student who scores 500 or above in one of these areas (the average score for graduating seniors) is exempted from the general education requirements in that area. Successful performance in all three areas exempts the student from all general education area requirements.

An evaluation of the results has shown that waiving these requirements has little effect on the number of general education courses taken by these students. The most talented students of the group, as measured by the number of tests passed on the Graduate Record Examination, took sigificantly more of their course work in the physical sciences. Students who achieved a score of 500 or better on an Area Test subsequently tended to complete more course work in the corresponding area of the curriculum and earned higher grades than those who scored lower on that test.

It was recommended that the university study 1) the possibility of giving University credit for superior performance in the tests, 2) the desirability of Honors programs as a substitute for requirements in those areas from which the student is exempted, and 3) the need for more intensive academic and vocational counseling for the superior group.

●

In Oregon the state legislature has voted $250,000 for programs for the gifted in the secondary schools. (If this can happen in one state, why not in others?) Such action creates a golden opportunity to persuade the same legislature to vote parallel funds for programs for the gifted in the state institutions of higher education.

Utah high school graduates in the top three per cent of their graduating classes will be eligible for $150 scholarships to the UNIVERSITY OF UTAH under a new plan for the 1959-60 school year. The program, which will permit a $50 tuition waiver during each of the three quarters of a student's freshman year, is intended to encourage highly gifted students to continue their education. The scholarships will be based entirely on scholastic records, irrespective of need. Based upon a total of 8,000 high school graduates in Utah, the scholarships would be available to approximately 240 high school graduates. The new program will be in addition to regular grants-in-aid and scholarship awards available to University of Utah students.

A revised and expanded set of DESCRIPTIONS OF HONORS PROGRAMS IN AMERICAN COLLEGES AND UNIVERSITIES is now ready for distribution. Copies are available from the ICSS office.

The ICSS welcomes suggestions on how to make these descriptions most useful for those engaged in Honors work.

the superior student

J. W. Cohen, Director and Editor-in-Chief
N. D. Kurland, Associate Director and Editor

Executive Committee: E. A. Cameron, N. Carolina; S. P. Hays, Iowa; R. B. MacLeod, Cornell; H. H. Quint, Massachusetts; J. H. Robertson, Michigan; E. W. Strong, California; C. G. Taylor, Louisiana State; G. R. Waggoner, Kansas; W. D. Weir, Colorado; D. Wynn, New Mexico.